

MODE IDENTIFICATION OF TERRESTRIAL FORESHOCK ULF WAVES OBSERVED BY CLUSTER

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Plasma waves in the vicinity of collisionless shocks play an essential role in the dynamical process of magnetospheric and astrophysical plasmas. Plasma waves in the foreshock region are particularly important for the process of plasma acceleration. We perform a detailed identification of plasma modes for ULF waves observed by Cluster spacecraft in the foreshock. The plasma mode identification is based on the dispersion and polarisation of observed waves. Particular attention is devoted to the waves generated by Halo instability.